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REMARKS

The Office Action allowed Claims 2-4, 6, 8-11 and 13-25 and rejected Claim 1.

The Cited References Do Not Describe the Invention of Claim 1

The Examiner maintained the rejection of Claim 1 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 4,715,090 to Morris ("Morris") in view of DE 1,584,006 ("DE '006"). The Examiner admitted that Morris does not disclose an engagement means including a spherical surface of a given radius seated in an annular groove of a curved section, the curved section having a radius of curvature the same as said given radius so as to permit rotation of the hinge pin but prevent any axial movement of the hinge pin relative to said other hinge leaf. However, the Examiner alleged that in light of DE '006 it would have been obvious to one skilled in the art to modify the structure of the hinge assembly described by Morris to provide an engagement means which permits rotation of a hinge pin but prevents axial movement of the hinge pin relative to another hinge leaf, as required by Claim 1.

DE '006 describes an interleaved hinge where a first hinge leaf (12) is trapped within a second hinge leaf (11) so that the first hinge leaf (12) is axially immovable relative to the second hinge leaf (11). A hinge pin (13) extends through the first and second hinge leaves. A first groove (14) in the hinge pin (13) and a ball (21) cooperate with one another to selectively retain the hinge pin (13) within the first and second hinge leaves (11, 12). The first groove (14) has a recessed portion (18) and an inclined portion (17). The angle of incline of the inclined portion (17) is chosen so that axial withdrawal of the hinge pin (13) urges the ball (21) against the biasing force of a spring (22) and allows withdrawal of the hinge pin (13). The hinge pin (13) is withdrawn when an axial withdrawal force greater than a threshold is applied. The threshold is determined by the geometry of the ball (21) and the inclined portion (17). DE '006 teaches that the geometry of the engagement means, i.e. the inclined portion (17) and the ball (21), is chosen to allow axial withdrawal of the hinge pin (13) upon application of a given axial withdrawal force to the hinge pin (13).

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Morris describes an engagement means that includes a locking screw (22) which locks a pin (3) to a second hinge leaf (14). If the teachings of DE '006 are used to modify the engagement means of Morris, then the result is that it would be possible to move the second hinge leaf (14) axially relative to the pin (3) upon application of a suitable axial withdrawal force. This would allow a user to pull the first and second hinge leaves (1, 14) apart upon the application of a suitable axial withdrawal force. The resulting combination is contrary to the claimed invention which retains the first and second hinge leaves (12, 14) relative to one another regardless of the application of any axial withdrawal force.

DE '006 does not provide any teachings to modify the described engagement means to prevent separation of the first and second hinge leaf, as required by the claimed invention. Even if the engagement means described by DE '006 are modified to include a first groove (14) having a curved profile rather than a recessed portion (17) and an inclined portion (18), the result would not allow axial withdrawal of the hinge pin (13) from the second hinge leaf (11) upon the application of a given axial withdrawal force to the hinge pin (13). In fact, providing a first groove (14) having a curved profile in the engagement means of DE '006 would prevent axial withdrawal of the hinge pin, which is contrary to the objectives and teachings of DE '006. It would not have been obvious to one skilled in the art to combine the teachings of Morris and DE '006 to obtain the claimed invention since the changes that would be required to the engagement means described by DE '006 would prevent it from being used as it was intended.

The use of a first groove (14) having a curved profile in the engagement means of DE '006 provides the unexpected result of preventing axial withdrawal of the hinge pin (13), which is contrary to the objectives and teachings of DE '006. Thus, the use of a first groove (14) having a curved profile is not an obvious design choice, as alleged by the Examiner.

In light of the foregoing, it is submitted that the combination of Morris and DE '006 does not describe, teach or suggest the claimed invention and that Claim 1 is patentable over the cited references.

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CONCLUSION

Applicant respectfully requests reconsideration of the present application in view of the foregoing remarks. Applicant further requests that the Examiner call the undersigned attorney if allowance of the claims can be facilitated by a telephone interview.

No additional fees are believed due; however, the Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 11-0855.

Respectfully submitted,



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